

MINUTES
CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE (CTCDC)
MEETING Sacramento, September 24, 2003

The third and last CTCDC meeting of year 2003 was held in Sacramento, on September 24, 2003.

Vice Chairman John Fisher opened the meeting at 9:15 a.m. with the introduction of Committee Members and guests. The following Members, alternates and guests were in attendance:

| <u>ATTENDANCE</u> | <u>ORGANIZATION</u> | <u>TELEPHONE</u> |
|------------------------------------|---|-------------------------|
| Members (Voting) | | |
| John Fisher Chairman | League of CA Cities City of Los Angeles | (213) 580-1189 |
| Farhad Mansourian Vice Chairman | CA State Association of Counties Marin County | (415) 499-6570 |
| Gerry Meis | Caltrans | (916) 654-4551 |
| Bridget Lott | CHP | (916) 657-7222 |
| Ed von Borstel | League of CA Cities City of Modesto | (209) 577-5266 |
| Merry Banks | California State Automobile Association | (415) 241-8904 |
| Jacob Babico | CA State Association of Counties San Bernardino County | (909) 387-8186 |
| <u>ALTERNATES</u> | | |
| Mark Greenwood | League of CA Cities City of Palm Desert | (760) 776-6450 |
| John Presleigh | CA State Association of Counties County of Santa Cruz | (831) 454-2160 |
| Lewis Lem | California State Automobile Association | |

| <u>ATTENDEES</u> | <u>ORGANIZATION</u> | <u>TELEPHONE/E-Mail</u> |
|---------------------|-------------------------|--|
| Michael Montoya | Fortel Traffic Inc | (831) 402-5020 Mike@forteltraffic.com |
| Jason Nutt | Marin County | (415) 499-7137 Jnut@co.marin.ca.us |
| Todd Johnson | 3M | (530) 209-1983 T-Johnson1@mmm.com |
| Johnny Bhullar | Caltrans-Traffic Ops | (916) 654-7312 |
| Greg Edwards | Caltrans-Traffic Ops | (916) 654-3507 |
| Michael A. Harrison | LightGuard System, Inc. | (707) 542-4547 Mikeh@lightguardsystem.com |
| Brain Alconcel | Caltrans | (916) 654-6225 |
| Lynn Mack | Polara Engineering | (909) 964-9512 Lynn@polara.com |
| Dennis Anderson | 3M | d-anderson@mmm.com |
| Jana Cervants | City of Roseville | jcervants@roseville.ca.us |
| Rick Tippet | City of Roseville | rtippet@roseville.ca.us |
| Theresa Gabriel | Caltrans | (916) 654-5039 |
| Joe Jeffery | Road-Tech | (530) 676-7797 joe@road-tech.com |
| Richard Jands | | richardo@aol.com |
| Michael Jones | Alta Planning | mjones@alta-planning.com |
| John Hoxie | Caltrans | |
| Terence E. Stoker | Volunteer CCB | (650) 529-1179 |

MINUTES

Adoption of June 2003 CTCDC meeting minutes.

Motion: Moved by Farhad Mansourian, seconded by Ed von Borstel, to adopt the minutes of the CTCDC meeting, held on June 5, 2003 in Sacramento. Motion carried 7-0.

Membership:

Lewison Lem replaced Dwight Ku as the Alternate Member of the California State Automobile Association. Dwight Ku resigned from the Committee because his responsibilities changed with the Auto Club.

PUBLIC COMMENTS

Jerry Gabriel, Caltrans District 9, stated that he has been attending CTCDC meetings for a number of years and he appreciates the work the Committee is doing to keep uniformity and consistency in regards to traffic control devices in California.

Mike Harrison, LightGuard, stated that in-roadway-warning lights at the stop bar of a signalized intersection were used in Houston, Texas. The results are very similar to the Anaheim study to reduce red-light running incidents.

Public Hearing

01-12 BlinkerStop Sign

Chairman Fisher asked Gerry Meis to address the agenda item for blinkerstop. Gerry introduced Jerry William, a representative from blinkerstop and requested that he address the Committee.

Jerry William stated that the request was submitted to place blinkerstop on the agenda for conditional approval. The reason for this request is that the FHWA, in its upcoming Revision 2, Section 2A.08 of the MUTCD expected in October 2003, will authorize the use of flashing LEDs on conventional traffic signs. He requested the Committee take parallel action to adopt the MUTCD language in California. He added that blinkerstop sign has been installed at a number of locations and data have indicated the sign improves the conspicuity. LEDs require less power when compared to the standard flashing beacon (FB). The earlier comments about the red flashing LEDs on the original blinkerstop "not being bright enough in full sunlight", has largely been resolved with TAPCO's new "Daylight Visible" LEDs. These are currently being tested on blinkerstop signs in several California locations. He requested that the CTCDC consider adopting the MUTCD upcoming Revision 2 language in California.

Gerry Meis, sponsor of the item, suggested to wait and see what the final action from FHWA will be regarding Revision 2 of the MUTCD 2000, Section 2A.08 retroreflectivity and Illumination. Gerry added that based on the Committee's records, to date, no comprehensive data has been submitted that shows effectiveness of the sign.

Jerry responded that within a couple of months they would be requesting that the experimenting agencies put together a comprehensive report including accident data. Reporting has been delayed due to the staff reductions within Caltrans. Jerry asked the Committee if they received a report on blinkerstop sign from Dale Jones. The report prepared by the University of Houston was a comprehensive document.

Gerry Meis responded no, and asked Jerry Gabriel, Caltrans District 9 in Bishop, if the district was able to provide input on the device.

Jerry Gabriel responded that they have installed blinkerstop signs at two locations. One location, data indicates reduction in collisions. At the other location there was no change because of other improvements.

implemented. He added that the device could be useful at locations where there is a no power. Also solar powered LEDs produces low operating cost.

Chairman Fisher asked Mr. Gabriel about the size of a solar panel used with a conventional FB.

Jerry responded that two panels each approximately 2'x4' are used with 12" FB.

Gordon Skotarozyk, TAPCO, stated that the original blinkerstop was fitted with a 7"x7" solar powered panel and a recent brighter version is fitted with a 9"x13" solar panel. The back-up rechargeable battery package is an 8-D-cell and the life of the battery package is approximately seven years.

Jerry William stated that new, brighter LEDs on blinkerstop signs are 100% brighter than the original version. The solar panel back-up battery package is small and easy to install. The motorist sees the stop sign from a distance and LEDs increase the conspicuity of the sign.

Chairman Fisher agreed with Gerry Meis' comments and stated that the Committee should wait and see MUTCD's final language. He further added he has seen various versions of stop signs with conventional FB, LEDs on periphery, and a strip of LEDs imbedded in the sign panel.

Gerry Meis stated that he believes at this point no action is needed and suggested that the Committee wait for the final report on the on-going experiments and the final language of Revision 2 of MUTCD.

Jerry William agreed with the comments. He thanked the Committee for the opportunity and stated that they will be requesting a comprehensive report from experimenting agencies.

Action: Item will be placed on a future agenda if new information is provided or the Committee receives a final report.

03-12 Proposal to Revise the Existing 55 Maximum Speed Limit R6-1 Sign

Chairman Fisher asked Gerry Meis to introduce a proposal to revise the existing 55-mph maximum speed limit sign R6-1.

Gerry briefed the Committee regarding a proposal to replace the existing R6-1 sign with two signs R6-3 and R6-4. The following illustrates the existing and proposed:

Existing Single Sign

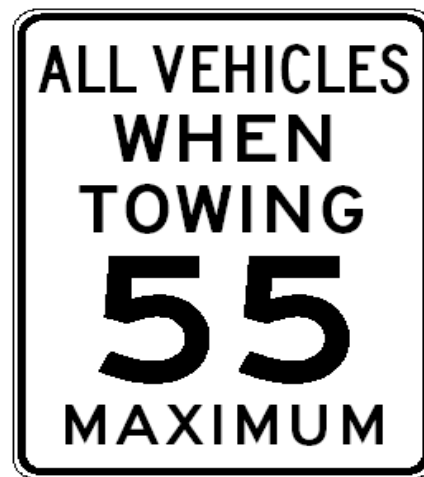


R6-1 (48" x 60")

Proposed 2 Separate Signs



R6-3 (48" x 60")



R6-4 (48" x 60")

Gerry stated that Caltrans received a request from the California Highway Patrol to make existing 55-mph signs more easily understood. Some motorists towing vehicles believe that the 55-mph speed limit is not applicable to them. The signs are primarily used on the highways that are posted higher than the 55-mph speed limit. California Vehicle Code Section 22406 states that, "No person may drive any of the following vehicles on a highway at a speed in excess of 55 miles per hour:

- (a) A motortruck or truck tractor having three or more axles or any motortruck or truck tractor drawing any other vehicle.
- (b) A passenger vehicle or bus drawing any other vehicle.
- (c) A school bus transporting any school pupil.
- (d) A farm labor vehicle when transporting passengers.
- (e) A vehicle transporting explosives.
- (f) A trailer bus, as defined in Section 636.

Gerry further added that when a recreational vehicle (RV) is towing a small car the driver frequently believes that the 55-mph speed limit is not applicable on them. In addition some neighboring States do not have a separate speed limit for trucks. The signs will be replaced only if the current sign is knocked down or when it reaches its useful life. The existing policy and proposed policies for the signs are as follows:

Farhad Mansourian asked if the existing one sign would be replaced with two signs.

Gerry responded yes.

Chairman Fisher asked, since it is a law that no vehicles listed under CVC Section 22406 may drive over speed 55-mph, are these signs required to be installed? Generally, the law is applicable throughout the State and the signs do not need to be installed.

Gerry noted that one of the big problems is when a RV is towing a small vehicle the driver does not believe the speed limit applies to them. Caltrans tried to accommodate the message on a single sign panel; however, the message was too lengthy to read at freeway speeds.

Chairman Fisher suggested that the policy for R6-3 be changed from "shall" to be either "may" or "should", because 55-mph is a law. You do not need "shall" if it is applicable throughout the State.

Gerry responded that the policy could be revised.

EXISTING

POLICY: R6-1

The AUTOS WITH TRAILERS, TRUCKS - 55 MAXIMUM sign (R6-1) shall be placed in designated highway sections where the maximum speed in excess of 55 mph is permitted. The R6-1 sign shall be installed approximately 750 feet following each SPEED LIMIT ____ sign (R2) or MAXIMUM SPEED ____ sign (R6) in the designated sections. See CVC Section 22406.

PROPOSED

POLICY: R6-3

The TRUCKS, 3 AXLES OR MORE 55 MAXIMUM sign (R6-3) shall be placed in designated highway sections where the maximum speed in excess of 55 mph is permitted. The R6-3 sign shall be installed approximately 750 feet following each SPEED LIMIT ____ sign (R2) or MAXIMUM SPEED ____ sign (R6) in the designated sections. See CVC Section 22406.

POLICY: R6-4

The ALL VEHICLES WHEN TOWING 55 MAXIMUM sign (R6-4) shall be placed in designated highway sections where the maximum speed in excess of 55 mph is permitted. The R6-4 sign shall be installed approximately 750 feet following each TRUCKS 3 AXLE OR MORE 55 MAXIMUM sign (R6-3) in designated sections. See CVC Section 22406.

Chairman Fisher asked for other comments from the audience. There were none.

Motion: Moved by Gerry Meis, seconded by Merry Banks, the existing 55 maximum speed limit sign R6-1 be replaced with the proposed R6-3 and R6-4 signs as illustrated above.

Chairman Fisher asked for discussion on the motion. There was none.

Motion carried 7-0.

Action: Item completed.

02-9 Mandatory Requirement of Accessible Pedestrian Signals (APS)

Chairman Fisher stated that former Chairman Jim Larsen had designated a Sub-Committee to examine mandatory requirements of APS. Members of the Sub Committee are from the visually impaired (VI) community and CTCDC Members. The question was whether California should adopt different standards than the national standards in the MUTCD. The Chairman asked Jacob Babico, sponsor of the agenda item, if he would provide an update.

Jacob stated that Committee Members have received a brief summary of the Sub-Committee meeting minutes along with APS guidelines used by the City of San Diego and the City of Los Angeles. He added that the Sub-Committee explored an idea of establishing a warrant system for APS. There has been no progress on a warrant system and he suggested having a second Sub-Committee meeting to discuss guidelines and a warrant system.

Chairman Fisher, Chair of the Sub-Committee, summarized the meeting held on March 12, 2003 to discuss APSs. He stated the meeting was attended by the National Federation of the Blind of California (NFBC), the California Council of the Blind (CCB), other citizens and the Sub-Committee members. Various issues were discussed during the meeting including mandatory requirements of APS, birdcalls versus new devices, and priority guidelines. As a result of the discussion, the group identified a list of items or issues that should be considered for new signal installations or during rehabilitation of existing signals. The list of considerations is as follows:

- Near blind centers and senior citizen centers
- T-intersections
- Intersection geometry
- Exclusive or Inclusive signal phases
- Wide intersections
- Actuation of signal phasing
- High speed
- High turning volumes
- Pedestrian collisions
- Transit or major terminals

These are to be priority considerations. There was strong opposition from one group in regards to a mandatory requirement. An another suggestion was to waiting and see the final ruling by the FHWA on the US Access Board's Draft Guidelines for Accessible Public Rights-of-Way.

Chairman Fisher asked for comments from Committee Members. There were none.

Chairman Fisher asked for comments from the audience.

Dan Kysor, representative from the CCB, stated that their organization is the largest consumer of APS and they strongly support a requirement for APSs. The new technology is environmentally friendly to sound pollution. The CCB supports the priority considerations identified by the Chair and this is an excellent beginning to provide guidance to Caltrans and other public agencies. Dan requested the following considerations be added to the list presented by Chairman Fisher:

- Major street intersecting with Minor Street having very little traffic.
- Leading pedestrian intervals.
- Exclusive pedestrians phasing, especially right turn on red.
- Mid block crossings.
- Medical facilities.
- Larger shopping malls/centers.

He requested the Committee adopt higher APS requirements in California than the MUTCD.

Jake, CCB, suggested that California should take a more active role and adopt higher standards than national standards. He appreciated the Committee's standing on the priority locations.

Chad Allen, NFBC, stated that his organization strongly opposes a mandatory installation of APSs. The organizations' position is, with proper training, a VIP without a problem can cross a majority of intersections. He added that sometimes the loud sound of an APS device causes problems for the VIP in crossing a street. The traffic surge is the best tool for him and for most of VIPs crossing a street. He stated that there are circumstances when an individual VIP has difficulties crossing a particular intersection, then APSs can be considered. He suggested a mandatory installation is a burden on local agencies and why consider these when the majority of pedestrians are not going to use them.

Gerry Meis asked Chad about traffic noise being the best tool in crossing a street. Since newer vehicles or electric vehicles are quieter, do you think that this may be a reason to consider APS in the future?

Chad responded that he would listen for combustion engine acceleration while he is waiting to cross a street. He added that while waiting at the corner of a street to cross, he would be listening for the near side parallel traffic surge. When he hears the traffic acceleration of the near side parallel, he knows that is his cue, and he will start crossing. Basically, the parallel traffic acts as a wall while he is crossing a street. With APS, the sounds of vehicles get mixed with the APS and may cause confusion. Chad stated that when electric vehicles are out there they are with the regular vehicles. With proper training in mobility, a VIP can acquire skills for crossing a street without an aid. He said he received six-months training in Denver, Colorado and the same rules apply in Los Angeles where he now resides.

Bridgett Lott asked whether the vast majority of VIP have access to the training, or is it expensive and many of them would not be able to receive it.

Chad responded that the Colorado Vocational Rehabilitation Program paid for his training. There are obstacles and sometimes it is difficult to receive training. Dog training is a very successful tool in California. The bottom line is motivation. If someone wants it he will get it. If someone's ability or quality of life is affected by a disability, they know what decision to make to seek that knowledge so they can travel from point A to point B.

Merry Banks commented that California has the best rules and laws for the safety of people who are vulnerable, such as pedestrian laws, safety belts, no smoking etc. However, when your own community cannot agree on what the Committee should be doing to help you, the Committee is put in a very difficult position. She further added that there are devices used in other Countries, which are activated by remote control, if someone wants to use it, he can activate the device. She asked Chad if there is a solution which could satisfy both groups?

Chad responded that he did not want APS to be a mandatory requirement. If there are circumstances and there is a need at a particular intersection, then install it. If this Committee is considering mandatory installation of APS, in his opinion, that is wrong.

Jacob commented that during the Sub-Committee meeting a mandatory requirement of an APS was rejected. The group decided to wait for the final guidelines from the FHWA.

Chad stated that if there are circumstances for having an APS at a particular location, his organization supports it. If a person becomes blind at the age of 65, he may not be able to get proper training and then an APS may be justified.

Bridgett Lott noted that the Committee appreciated comments made by Chad. She commented the Committee may need to look at the greater need of the elderly population. Factually, elderly people's vision gets impaired and if this type of device is a benefit to a vast majority as opposed to a smaller population, the Committee should look for an appropriate solution.

Chairman Fisher asked for any other comments from the audience.

Eizo Alviti stated that he was a member of the Sub-Committee and he agreed with the earlier comments made by Committee Members Bridgett Lott and Merry Banks. He stated that many people with sighted impaired vision are senior citizens and they may not have vocational rehabilitation training or some of them may not qualify for that training. He added that he has received training and has not experienced a difficulty in crossing a street by using traffic surge. However, intersections which allow a right turn on red are a problem. He has personally waited three cycles to cross a street. The APS system would be helpful for the VIP in that type of operation. There are some APS devices in the field which are loud; however, they were not obstacles in his crossing. He stated that most of the time push buttons are not placed at the proper location. He also gave examples of bus stops that are down stream of certain intersections. The bus stop traffic creates a loud noise, which reduces the ability of a VIP to hear the APS devices. If someday there are quieter vehicles, then a VIP may not hear a traffic surge. He added that a comment was made earlier about finding a strategy which is acceptable for both groups. He stated that he does not belong to either group. The common strategy should be having a three-second delay push-button. Everyone does not agree with this concept, but an APS will not be activated unless a pedestrian holds the push-button down for a three-seconds. Proper training can educate VIPs showing how to use a three-second delay push-button. By having a three-second delay, if someone does not want APS he will not get it, and unnecessary activation of the device would be eliminated.

He further added that prioritization guidelines should be used as a ranking threshold, not as a points system, as used in Los Angeles. The San Diego evaluation team includes a traffic engineer, mobility instructor and a VIP, while the Los Angeles guidelines do not have a VIP in the decision making body.

Jacob asked if an individual has proper training, then is it true that APS devices are not needed?

Eizo responded that proper training of the VIP does not control the motorist's behavior. Proper training provides a tool, however, there are intersections where a VIP has to wait 3-4 cycles due to the pattern of traffic. He suggested the list presented by Chairman Fisher and the additions made by Dan Kysor are a good starting point.

Dan Kysor responded to the comments made by Chad. Dan stated that the CCB was under the impression that the Sub-Committee has agreed to the concept of having a priority list. The CCB believes that the six items mentioned earlier are important for the VIP and should be added to the list proposed by the Chair. This will give guidance to public agencies while they are installing new signals or upgrading the existing ones.

Chairman Fisher added that these issues were discussed during the March 2003 meeting and the Committee has heard these comments from the blind community during many prior meetings.

Terence Stoker, a volunteer for the California Council for the Blind, stated that even though he has adequate vision, he will use APS if it is available. The APSs are helpful for the senior citizens. Sometime it is difficult to cross a street with vision, imagine how difficult it is for a VIP.

Chairman Fisher stated that during the March 2003 meeting the Sub-Committee discussed this issue several ways. One was a mandatory requirement which was rejected by a majority of the participants. It was also suggested to wait and see what the final ruling is by the FHWA on the "US Access Board's Draft Guidelines for Accessible Public Rights-of-Way." The other topic discussed was new technology versus the old technology. There was support for the new technology. The group agreed to create a list of intersections where APSs would be considered by an agency without a formal request. Chairman Fisher added that based on the March 2003 meeting and further discussion with interested groups the California Supplement should include the following in the Section on APS under Support.

Motion: Moved by Chairman Fisher, recommended Caltrans adopted the following in the Section on APS under "support":

“Signalized intersections with the following characteristics may be considered for APS during initial installation or during upgrading:

- a. Intersections near the blind centers and senior citizen centers.
- b. Transit Terminals.
- c. T-type intersections
- d. Wide intersections.
- e. Intersections with unusual geometry.
- f. Skewed intersections
- g. Mid-block crosswalks
- h. Intersection with exclusive phasing
- i. Intersections with leading pedestrian intervals.
- j. Intersections with frequent side street calls, and;
- k. Intersections with high turning volumes.

Farhad Mansourian **seconded the motion** and asked clarification as to whether guidelines will be developed for the device.

Chairman Fisher responded that there is a difference between guidelines and priority locations. The priority list provides an extra tool for public agencies in considering an APS system. If any of the listed conditions exist and if they decide to install, the current guidelines or standards are applicable. This is a first step, and as the Committee and public agencies learn more, more detailed guidelines and standards may be developed.

Gerry Meis suggested taking action during the next meeting because that will give the blind community and others an opportunity for comments/suggestions.

Farhad responded that that is what the Sub-Committee had suggested and was the intention of the CCB and NFBC.

Chairman Fisher added that the listed conditions are voluntary and not mandatory, but it is voluntary. He asked for comments from the audience.

Dan Kysor requested that medical facilities and shopping centers be included in the priority list.

Chairman Fisher responded that that is covered under the near blind centers or sites serving the blind. Shopping centers/medical centers also have bus terminals therefore these would be covered under “transit terminals.”

Farhad agreed with the Chairman’s comments and added that the “near blind centers” or “centers serving the blind” cover all locations that are used by the VIPs and it is better instead of listing all possibilities.

Theresa Gabriel, Caltrans, Headquarters ITS Branch, stated that the current policy is based on a need and it is consistent and uniform. The proposal could be applied at all intersections. She said she receives questions from Caltrans Districts regarding installation of APS. She would have difficulty explaining this proposal in terms of application without specific guidelines. She also expressed concern about a location with high volume. She asked how you define high volume without guidelines. She advised the Committee that if you would like to recommend a priority list to be added in the California Supplement, then guidelines are needed to clarify installation locations.

Farhad responded that the list is under the Support Section and it advises a local agency to consider APS in certain conditions and it is not a mandatory requirement. The traffic engineers have to make a decision by using their judgement.

Theresa respond that she may receive calls about the application or interpretation of the priority list. She

added that the final product should be more descriptive.

Chairman Fisher stated that this Committee does not have the resources to conduct research and develop guidelines at this point. If the location is complex for a VIP crossing, the APS might be helpful.

Bridgett Lott added that if you develop specific guidelines, this limits the flexibility of public agencies. Adding the proposal under Support, there is latitude to do it or not to do it.

Chairman Fisher asked for other comments. There were none.

Motion Carried 7-0.

Action Item completed and recommended that Caltrans include the priority list in the California Supplement.

Request for Experimentation

03-13 Variable Speed Limit Sign

Chairman Fisher asked Ed von Borstel to introduce agenda item 03-13 for variable speed limit signs. Ed introduced Matt Jue, Traffic Engineer, City of Campbell and requested he address the Committee in regards to the proposed sign.

Matt stated that the City of Campbell is requesting experimentation with a variable speed limit sign within school zone limits. The sign will display a steady message of the normal speed limit of 35 mph; however, during school opening and dismissal periods the sign will display a 25-mph speed limit. Hamilton Avenue is a six-lane divided arterial with high speeds and high volume. Rosemary Elementary School is located at the northwest corner of Hamilton/Eden Avenue, a signalized intersection. The sign may be activated by time-of-day or manually by the school crossing guards to emphasize the 25-mph speed limit only during school opening and dismissal periods. At all other times the sign will display a 35-mph speed limit. The sign will be facing eastbound traffic and will be mounted either on an existing street light pole or on a Type 1- B pole. The experimentation period will be at least one year in order to collect data on both spring and fall semester traffic. The City will prepare the "before/after" study to measure the effectiveness of the sign. A final report will be completed within 90 days of the final date of experimentation and will be submitted to the CTCDC.

Chairman Fisher asked whether the existing stationary speed limit sign would remain in place or will it be removed?

Matt responded that the existing sign would remain in place. The proposed sign is a supplemental sign to alert motorists about the 25-mph school speed limit.

Chairman Fisher further asked whether the proposed sign would be within 500 feet of the school zone and would the 25-mph speed limit message be displayed through out school hours or just during the beginning/dismissal of school hours.

Matt responded that the 25-mph speed limit would be displayed during walking to school and dismissal hours. During the remaining school hours the sign will display the 35-mph speed limit.

Farhad Mansourian stated that the purpose of the sign is to remind motorists that they are in a school zone and the speed limit is 25-mph. The City is looking at ways to cause motorists to be in compliance with the school speed limit by using a variable speed limit sign. The City request indicates that the 25-mph speed limit message will be displayed between 7:30 to 8:00 a.m. and 2:15 to 2:45 p.m. He suggested that the Committee consider approving the 25-mph speed limit display during the opening/dismissal hours of the school day.

Chairman Fisher asked for comments from members of the audience.

Todd Johnson, 3M, clarified that the proposed sign is a supplemental sign to the existing school speed limit sign. The sign can be operated with a remote control to turn it on and off. The primary purpose is to get the motorist's attention to remind them that they are in a 25-mph speed limit zone. This sign does not have capability to display a "speed feedback" message of the approaching vehicle.

Gerry Meis inquired whether these types of signs are used elsewhere in the nation.

Todd responded that approximately 300 signs are installed nationwide.

Gerry Meis asked Matt whether the City is committed to collecting comprehensive "before and after" data for the Committee, so the Committee will be able to make a good decision.

Matt responded that the City of Campbell is committed and will provide "before/after" data to the Committee at the conclusion of experimentation.

Chairman Fisher asked for other comments from the Committee members and from the audience.

There were none.

Motion: Moved by Ed von Borstel, seconded by Farhad Mansourian, approve experimentation with a variable speed limit sign to display a 25-mph speed limit during the opening/dismissal of school hours and the sign will be blank during other school hours.

Chairman Fisher asked for a discussion on the motion. There was none. Motion carried 7-0.

Action: Item approved for experimentation.

03-14 Numbering of Signalized Intersections

Chairman Fisher asked Jacob Babico to introduce the numbering system of signalized intersections experiment request from the Coachella Valley Association of Governments (CVAG).

Jacob stated that he received a request from CVAG to sponsor their proposal to install a numbering system for signalized intersections on State Route 111 through the Coachella Valley. Jacob introduced Allyn Waggle, Deputy Executive Director, CVAG and asked him to address the Committee.

Allyn stated that CVAG requests experimental approval to install sequentially numbered signs on poles at each of the signalized intersections along State Route 111 through the seven cities of Coachella Valley. The intent of this proposal is to provide a simple method for many tourists and other visitors to the Coachella Valley to find their way safely and efficiently along the most heavily traveled route through the seven cities. The tourism industry is an important component of the Coachella Valley's economic base. A great number of tourist destinations are located on or referenced by proximity to Route 111. As the primary east-west roadway, Route 111 carries tremendous traffic volumes for a local road. Any improvement that reduces traffic congestion and accidents, and generally contributes to the visitor experience is important to pursue.

Allyn further added that portions of Route 111 are State Highway right-of-way, but other portions have been relinquished to the adjacent cities. However, the entire route is commonly referred to as State Route 111. An encroachment permit is required from Caltrans District 8. Any mitigation, which is part of the permit, will be addressed and CVAG is aware of that. A prototype sign was produced in order to present the concept to each of the affected jurisdictions. An illustration of the sign is included in the agenda packet. The sign will be 18" by 24". The color scheme will be as close as possible to the attached photograph, depending on commercially available materials to duplicate the colors shown. Centered in the

sign will be the intersection number. No numbers will be greater than two digit. The proposal for numbering the intersections was first proposed by the Hospitality Industry and Business Council (HIBC) of the Palm Springs Desert Resorts Convention and Visitors Authority (CVA). Allyn asked the Committee for approval and any questions the Committee may have.

Chairman Fisher asked the Committee members if they had questions for Allyn.

Gerry Meis asked Allyn whether the intersection numbering system has been used with a combination of street names elsewhere in the country.

Allyn responded that the intersection numbering signs will be separated from the street name signs and will be placed on a signal pole. He is not aware if this type of system has been used anywhere else except on the freeways.

Gerry asked about the total length of the project?

Allyn responded that the total length of the project is 13-14 miles. The first signalized intersection is located at the north end of the city of Palm Springs and that will be Exit Number 1. The numbering sequence would then increase at each signalized intersection along Route 111 through Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta and, finally, Indio, ending with signalized intersection number 94.

Gerry Meis further stated that he is not strongly in favor of the proposal. As a traveler, the first thing he will look at is the map of the area and get familiar with the destination. Relying only on signs is not a good idea for traveling motorists. There are number of conventional State Highways going through cities and the question is how would you determine if those highways are not in need of similar treatment. Where do you draw a line? How will you determine the failure/success rate of the proposal?

Allyn responded that by his own experience he can describe the out-of-towner who drives 30 mph in the fast lane looking for "foreign sounding" street names, slowing at each intersection, just in case he needs to make a left/right turn. The visitor who is looking for Intersection 45 as he is passing through Intersection 16, knows where he is heading, able to maintain traffic speed until he crosses Intersection 44 and then needs to change lanes to make that left/right turn. He doesn't worry about directions except whether he is looking for increasing or decreasing sign numbers. Nor does he worry about which city he is in, the color of the street signs or which way is north. He won't have to worry how to pronounce that odd sounding street name because if he needs directions, he will ask for a number instead. Allyn further added that the success will be measured if the Auto Club, the Hospitality Industry and Business Council (HIBC) of the Palm Springs Desert Resorts Convention and Visitors Authority, and the Chamber of Commerce include the numbering on their maps. That would be hard evidence of the success.

Chairman Fisher asked what is unique about the numbering system that cannot be achieved by the street names?

Allyn responded that many street names in Coachella valley are "foreign sounding", slowing the traveler at each intersection. The intent of this proposal is to provide a simple method for the many tourists and other visitors to the Coachella Valley to find their way safely and efficiently along the most heavily traveled route through Coachella Valley. A visitor can easily miss a street name but if he is looking for Intersection 20, as he is passing through Intersection 11, he knows where he is heading and able to maintain traffic speed until he crosses Intersection 19 and needs to change lanes to make that left turn or right turn. Tourists do not need to remember which City they are passing through. The sign will be uniform and they will know they are looking for Number 20. They do not need to remember the street names.

Merry Banks inquired about the visibility and retroreflectivity of the sign. She added that the background and message (number) of the sign is of a similar color that might cause visibility problems.

Allyn responded that all the cities have agreed on the size, shape, and color of the sign. The sign was tested in the field for visibility and it was found adequate during both day and night periods.

Jacob commented that the proposed color of the sign is neither in the State Traffic Manual nor in the national manual.

Allyn responded that presently all the cities use different colors for street name signs. The proposed intersection numbering sign will have the same color throughout all cities and they will all agree upon the color.

Gerry Meis commented that color is an issue because national standards for street name sign is white on green.

Farhad Mansourian stated that he heard good questions raised by his colleagues. He suggested the Coachella Valley community has a unique tourist navigation problem and CVAG proposed a unique solution. The Committee should support their idea and see if it is workable. The area heavily depends on the tourists. The CVAG will provide data if it is successful or not. If it is proven successful, this system could be used in other communities, which attracts tourism, such as Napa Valley. He supports the proposal and asked the colleagues to support the Coachella Valley efforts to see if the numbering system works or not.

Gerry Meis stated that the problem is not well defined and he is not sure if a numbering system will help the traveling motorists.

Farhad responded that the only way to find the success/failure is to allow the community to use the numbering system. If they came back and said it did not work then that is the end, but if it works, other communities may choose to use it. Farhad further added that the CVAG should consider the Committee's comments about visibility and color of the sign.

Chairmen Fisher agreed with Farhad's comments and stated that Coachella Valley is heavily dependent upon tourism and they have a unique problem and proposed a unique solution. He will support the proposal to see if it is workable. Other California communities may not have similar problems like the Coachella Valley community. He further added that the CVAG should make sure the numbers are visible at nighttime. He asked Allyn how CVAG would collect quantitative data.

Allyn responded that quantitative data would be difficult to collect. The success of the program can be determined if the Auto Club, Hospitality Industry, and Chamber of Commerce incorporate a numbering system in their mapping system.

Gerry Meis asked whether CVAG planned to conduct a survey.

Allyn responded that this could be achieved by the Hospitality Industry requesting input from the hotel industry to provide feedback whether the numbering system has been used. We can place a survey in a newspaper and ask for feedback from the general public as well as from the tourism industry.

Chairman Fisher asked for comments from the members of the audience.

Council member Terry Henderson, City of La Quinta, briefed the Committee about the history of the numbering system. She stated the concept was developed in 1988 and she has been personally involved and has attended city council meetings with seven cities in regards to this project. During the last three years, the proposal went through 25 different hearings and a number of different committees and sub-committees that were formed to review the proposal. There was a wide range of discussion on the proposed color scheme. Personally, she favored the standard color, however, the proposed color was selected after the input from the Hospitality Industry and Business Council (HIBC) of the Palm Springs Desert Resorts Convention and Visitors Authority (CVA). The proposed color is unique to the area, and all

seven cities have agreed on the color scheme.

Council member Henderson added that this is not exactly a new concept. It has been used in Florida and in Arizona. Often times this concept was published in newspapers and a number of good articles have been published. She promised that they would keep the Committee informed about the success/failure of the program. She stated that she is open for questions, if there are any.

Chairman Fisher asked whether Coachella Valley is willing to conduct a survey from the consumers, such as hotels and restaurants to find out the success/failure rate of the program.

Council member Anderson responded that they will ask the hotel industry to place a small card in the guest rooms to get input from the guests or will explore other ideas to find out whether the program is working or not.

Mike Harrison, LightGuard System, supported the proposal. He added that a numbering system is more convenient and easy to follow for travelers in reaching a destination.

Gerry Gabriel, Caltrans D9, commented about the federal freeway exit numbering system which numbers exits from south to north or west to east. The proposal is from north to south.

Allyn responded that most travelers arrive from the north and first signalized intersection encountered at the north will be given Intersection Number 1 and the Coachella Valley believes that is the best approach to assigning numbers for the entire project.

Richard, Retired District Manager, Southern Auto Club, supported the concept. He added that due to the growth of the area the communities are not any more separated and a numbering system would help tourists in reaching their destination without a problem. The numbering system works well for the highway system and it should work well for this segment of the highway. He asked Committee Members if there are any criteria used by the FHWA to determine the success, which can be used to determine the success for the proposed project. He added the proposal would be helpful for tourists in finding their destination. He stated he would be happy to answer any questions that he may be qualified to answer.

Don Howe, Caltrans, commented that FHWA uses two types of programs for the exit numbering. One is a consecutive system and the second is milepost. Three states, Pennsylvania, Georgia and Florida used to have consecutive numbering systems, however, they changed to the milepost numbering system. He asked whether the Coachella Valley has considered using the milepost system.

Allyn responded that the milepost system was one option, but due to the close proximity of the intersections, the proposed numbering system was the best alternative.

The Committee Members discussed the proposed color for the numbering system. Gerry Meis and Jacob Babico commented about using the standard color "white on green" while Chairman Fisher stated that MUTCD does allow different colors for street name signs to customize a look for different cities.

Chairman Fisher asked for other comments. There were none.

Motion: Moved by Farhad Mansourian, seconded by Ed von Borstel, to approve the experiment for a 12-month period with the following conditions:

- Ensure the color provides visibility and retroreflectivity during day and night times.
- Advertise and out reach to publicize the numbering scheme.
- Provide two reports on the post data, including survey (if possible) to the Committee. First report after six months and the second report after 12-months (at the conclusion of the experiment) period.

Motion carried 6-1. Gerry Meis voted against.

Action: Item approved for experimentation.

03-15 Radar Speed Sign

Note for reader's clarification: The Committee is dealing with two types of radar (changeable message) signs. In the previous meeting minutes, they were noted as "speed feedback" sign and "radar speed" sign. To clarify, the "speed feedback" sign is a single-mode sign that displays the speed of an approaching vehicle. The "radar speed" sign is a dual-mode sign, "speed limit/radar speed feedback" sign that displays speed limit and changes to vehicle speed when an approaching motorist is above the speed limit.

The "speed feedback" sign has been adopted as a standard traffic control device in California and the policy has been posted on the following Caltrans website:

<http://www.dot.ca.gov/hq/traffops/signtech/signdel/policy.htm>

The dual mode sign, "speed limit/radar speed feedback" sign is not an approved device in California, therefore, the installation of this sign requires approval from the CTCDC.

Chairman Fisher asked Ed von Borstel to introduce Agenda Item 03-15 experimental request submitted by the City of Freemont.

Ed reminded the Committee Members that during the last CTCDC meeting a similar type of request was approved for the City of San Jose, San Mateo and Vacaville. Ed introduced Rene Dalton and Sandeep Mangat, City of Freemont and asked them to present their request to the Committee.

Rene stated that the City of Freemont is requesting approval for the "speed limit/radar speed feedback" sign at five residential street locations. Two of the locations are near elementary schools. The purpose is to remind motorists that they are in a 25-mph speed limit zone. The 85-percentile speed is from 33 to 35-mph. The average daily traffic volume varies from 1200 to 3100. The City will collect "before and after" data and will submit that data to the Committee. He asked for the Committee's approval for the experimentation and he is available for questions if there are any.

Chairman Fisher opened discussion among Committee Members.

Gerry Meis noted that the proposed sign displays posted speed limit for the roadway, however, when an approaching vehicle is over the speed limit, the message changes to the vehicles actual speed. Gerry added that presently six agencies have approval to conduct experiments with a similar type of sign at approximately 55-60 locations. So far, the Committee has not received any comprehensive data from the experimenting agencies, except, the City of Garden Grove has submitted a brief report, and the copies were mailed to Committee Members.

Farhad Mansourian commented that the request is identical to the other approvals, which were given to the City of San Jose, San Mateo and Vacaville.

Chairman Fisher commentated that during the last meeting an experiment was approved with two different signs, a dual-mode ("speed limit/radar speed feedback") and with a single-mode ("speed feedback"). The concern raised during the last meeting was not raised during the earlier approvals. He asked Rene whether they would consider the same process as was approved for the three cities during the last meeting.

Merry Banks expressed that during the last meeting the Committee had asked the City of San Jose, San Mateo and Vacaville to use two different signs to see which one is more effective.

Michael Montoya, Vendor, responded that the collection of post data will take between six-months and a year and at that time, the Committee would have enough information from all the agencies to determine the

effectiveness of the device. He added that the City of Garden Grove's study indicates a reduction in speed by 8-10 mph, while the City of San Jose indicated a 5-7 mph reduction in speed.

Jacob Babico asked what parts of the sign will flash when a vehicle exceeds the speed limit. Will it be the text (your speed) or the numbers (vehicle actual speed)?

Michael Montoya responded both.

Jacob asked would it not be beneficial for the motorist, if the text were to be steady and number flashing? Michael Montoya responded that it would be more effective if both messages flash together because that would provide awareness to the motorist about the speed.

Jacob further asked whether the technology is capable of either flashing the text or the numbers.

Michael responded yes, it is possible.

Chairman Fisher commented that he likes the new technology, which could be effective in bringing speeds down in a school zone and on other facilities. However, he has concerns because the sign can be used in many different ways and that can confuse a motorist. He stressed the importance of keeping uniformity and consistency.

Bridgett Lott commented that she has opposed a similar proposal during the last meeting and her position on this agenda item is the same.

Farhad Mansourian commented that he supports the request because it is identical to previous approvals and he would ask the City to follow the same guidelines for the experimentation. He asked the City to conduct experimentation by using both "speed limit/radar speed feedback" and "speed feedback" signs. He suggested that the Committee approach the Office of Traffic Safety (OTS), and ask them to stop providing grants for this sign until the Committee gets data back from the ongoing experiments to determine the effectiveness. If OTS continues their grant system to public agencies, the Committee will continuously receive experiment requests. He stressed that the Committee should ask OTS to discontinue future funding for a one-year period, so that the ongoing experiments can be concluded. Secondly, he would like the Committee to give a blanket authorization to the Chairman to approve future experiment requests administratively.

Chairman Fisher asked for comments from the audience.

John Olejnik, California Highway Patrol, apprised the Committee that he had a meeting with OTS which was attended by the FHWA representative. During the meeting, the grant issue for the "speed limit/radar speed feedback" sign was discussed and the FHWA asked OTS to stop funding these unless the device is approved. The OTS has promised to stop funding for this device until it is officially approved.

Ted Johnson, 3M, stated that the radar speed feedback sign has been used across the country and data is coming in indicating that the sign is effective in reducing speed. The radar speed feedback sign does calm the traffic. He commented that the language proposed in the MUTCD is that the radar speed feedback sign may be used consecutive with the static speed limit sign.

Gerry Meis stated that he would like to move the motion on administrative approval.

Chairman Fisher asked for other comments on that subject. There were none.

Motion: Moved by Gerry Meis, seconded by Farhad Mansourian, authorizes the CTCDC Chairman to approve any future experimentation requests for the "speed limit/radar speed feedback" sign as long as they comply with the guidelines approved for the City of San Jose, San Mateo and the City of Vacaville. The authorization is until the Committee concludes the ongoing experiments. The Chairman will bring those

approvals as information items during future CTCDC meetings.

Chairman Fisher asked for further discussion on the motion.

Farhad Mansourian commented that if a local agency wanted to use a single mode, "radar speed feedback" sign, they do not need approval because it has been approved and the policy has been posted on the Caltrans website. If an agency wants to use a dual mode, "speed limit/radar speed feedback" sign, then they need approval, which can be received by writing to the Committee Chairman at: P.O. Box 942874, MS36, Sacramento, CA 94274-0001.

Farhad Mansourian further added that the Committee Chairman should contact OTS and request they discontinue funding for this device for a period of one year until the Committee can make a final recommendation.

Committee Members decided a letter should be sent to the OTS about this discussion.

Motion carried 7-0.

Chairman Fisher asked the City of Fremont whether they would consider conducting an experiment by using both, a dual-mode, "speed limit/radar speed feedback" sign, and a single mode "radar speed feedback" sign.

Rene responded that they would use both formats and submit the data to the Committee on completion of the experiment.

Chairman Fisher asked for other comments from Committee Members and the audience.

Mark Greenwood asked the Committee to clarify these two different signs discussed in the minutes so that public agencies can understand which sign has been approved and which one has not yet been approved. The clarification has been listed at the beginning of this item.

There were no other comments.

Motion: Moved by Farhad Mansourian, seconded by Ed von Borstel, approve experimentation by using both formats, a dual mode "speed limit/radar speed feedback" sign and a single mode "radar speed feedback sign."

Motion carried 6-1. Bridget Lott voted against.

Action: Item approved for experimentation.

Information Items

00-1 Bicycle pavement Markings

Michael Jones, Alta Planning, representing the City of San Francisco, gave a briefing on the ongoing experiment with bicycle pavement markings. Michael stated that two additional streets have been added to the previous locations. The City also has decided to use two types of bike pavement marking, "the bike-in-house" marking and "the bike-with-chevron" marking. The addition of the two more streets to the existing four streets would allow for better data collection and analysis. The following is the summary of the findings and work completed to date.

Milestone

The videotaping of six "before" locations has been completed. The six streets, Polk, 17th, 2nd, Market, JFK

(weekend location), Stanyan (weekend location) were videotaped at peak, and off-peak, both in the morning, early afternoon and evening. A sample of 1046 motorized vehicles and a 100% (1195) sample of bicyclists were collected and coded. The cyclist behavior was coded as the direction of they were riding and location (sidewalk or on street). The driver position and bicyclist positions were measured as to distance from the curb or parked cars and the visible conflicts between cyclists and drivers.

The bicyclist pavement markings were placed on all six locations, using both designs ("bike-in-house" and "chevron").

Based on initial findings, of 1195 bicyclists about 3% of cyclist's rode on the street against the direction of traffic and 6% rode on the sidewalk. The mean distance of cyclists to parked cars was 3.4 feet measured from the wheel of the bicycle to the wheel of the parked car. Where no parked car was present, the mean distance of cyclists to the curb face was 5.9 feet. The initial review of the survey completed on Market Street indicated that most cyclists noticed the new pavement markings. Most cyclists understood that the stencil marking indicated that the street was a bike route. It did not change where most bicyclists positioned themselves in the road. Most respondents felt like the marking increased their safety on the road. Cyclists seem to favor the chevron design by a 2 to 1 margin.

Michael further added that based on the response, there was some confusion as to the meaning and intention of the markings. Some thought that the markings were temporary and indicated that the route was to be striped as a bike lane in the future. Some respondents felt that the markings indicated that traffic was merging. A large majority of the respondents stated that the pavement markings effectively indicated the presence of cyclists on the road. Michael informed the Committee that cyclists and drivers are currently being videotaped on street locations with the new markings. These "after" videotapes will be coded, analyzed, and compared with the findings of the "before" videotapes. "Before and after" data will be compared to determine whether the markings are significantly more effective on higher volume roadways, roadways with wider curb lanes, and/or roadways with more travel lanes. Michael stated that these are the preliminary findings.

Chairman Fisher asked what percentage of cyclists understood the meaning of the chevron marking in terms of where to ride a bicycle avoiding doors of parked cars?

Michael responded that he is not sure if that particular question was asked, but the cyclists understood that both symbols indicate that it is a bike route.

Chairman Fisher further asked whether that was not the primary purpose of the experimentation to avoid a collision with vehicle doors that are suddenly opened by parked motorists.

Michael responded that he is not sure if that particular question was asked or not, but during the next meeting there will be more information on "after" data. Michael added that one stencil type is on one side of the street and the other type is on the opposing side. Thus regular commuters will see both in the course of a normal bike or car commute. The positions of both markings are at the same location in relation to the parked cars or curbs.

Bridget Lott asked whether the City has done public education or public awareness in regards to the experimentation. She further asked what was the basis for the street selections.

Michael responded that the cyclists in the City of San Francisco are experienced cyclists compared to other suburban areas. The City also provides formal training to cyclists. Michael added the streets for the experiment were picked based on different things such as, identified for future improvement, residential streets, and arterial streets, streets with bicyclist/motorists collisions and streets with low volumes.

Gerry Meis inquired as to whether the City has applied or has received approval from the FHWA. Gerry further asked whether one of the purposes was to inform both the motorists and the bicyclists, that the bicyclists have a right to travel in a lane far enough toward the left to avoid a collision with a parked

vehicle door. Gerry also raised concern as to creating a symbol without FHWA involvement.

Michael responded that he is not aware of an approval from FHWA. He stated that to educate both motorists and bicyclists was one of several purposes of the pavement markings.

Jacob Babico asked whether the pavement marking were supplements to bike route signs and where would pavement markings be positioned relative to the travel lane.

Michael responded that the pavement markings are slightly to the right of center of the travel lane. Their position also depends upon if parking is allowed or not. The pavement markings are supplemental. They do not replace the sign requirements.

Chairman Fisher thanked Michael for the update.

99-11 MUTCD Adoption By Caltrans

Chairman Fisher asked Caltrans to provide an update on the status of the MUTCD adoption and developing of the California Supplement.

Johnny Bhullar advised the Committee that the Signal Chapter has been posted on the website and it is open for public comment. He noted that the other eight parts would be posted on the website for public comments. He reminded all that the next two days are dedicated by Committee Members to discuss their comments on Part 2 comprised of signs.

Adjourn:

Moved by Gerry Meis, seconded by Merry Banks, to adjourn the meeting.

Motion carried 7-0.

Next Meeting: The next CTCDC meeting will be held on January 22, 2004 in the Room 805, 464 West Fourth Street, San Bernardino, CA 92402